

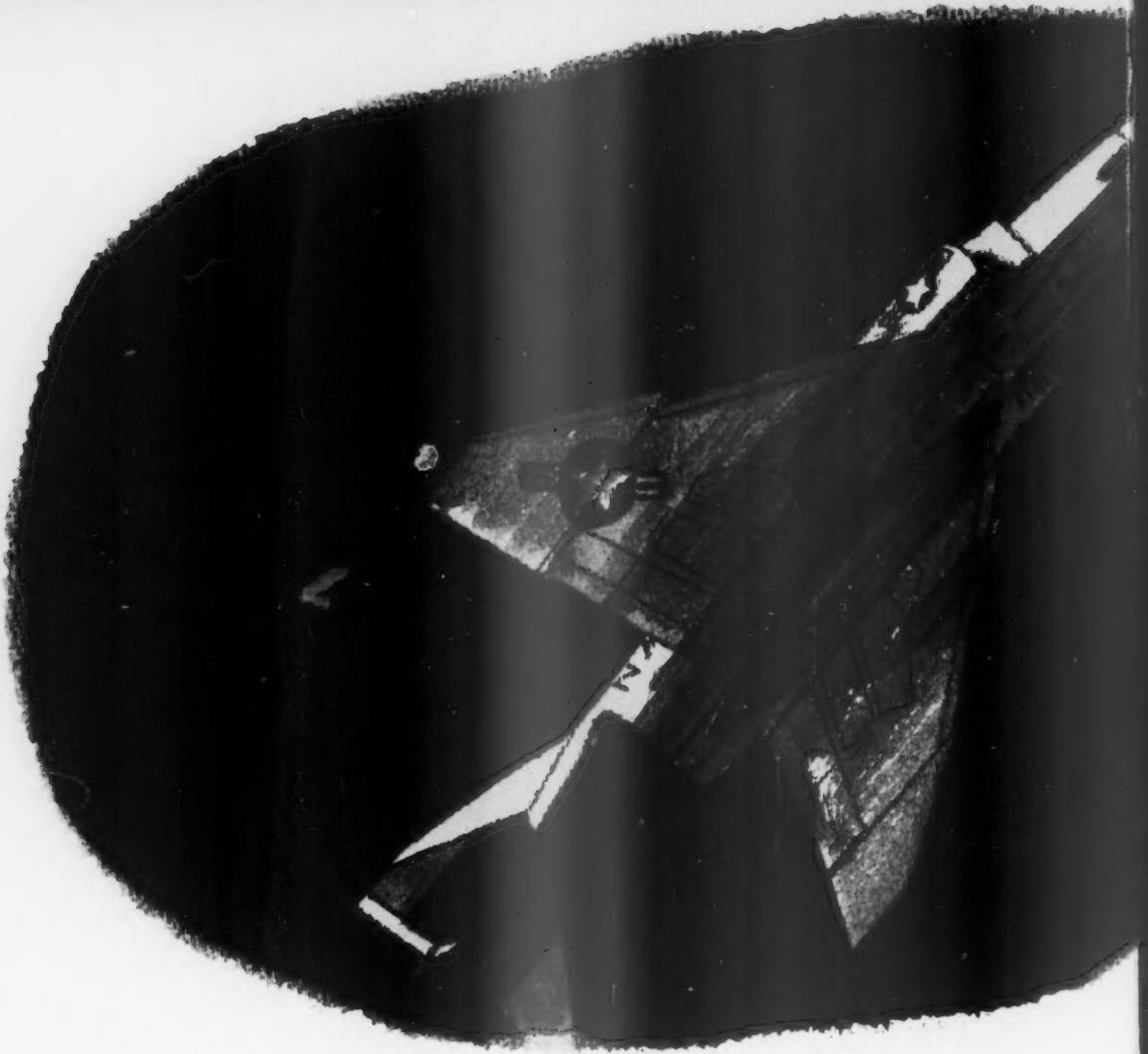
A Naval Safety Center Publication

approach

NOVEMBER 1973 THE NAVAL AVIATION SAFETY REVIEW



B Rader



PHANTOM

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Fuel Transfer

approach/november 1973

flight time utilizing a CRT takeoff and MRT climb to 5000 feet.

(b) In the F-4, the wings will not transfer fuel with total electrical failure because of the loss of power to the pressure regulator valves. With loss of electrical power, these valves open, venting system pressure which is required to transfer fuel to the fuselage tanks.

(c) Immediately prior to the electrical failure, the pilot had selected wing fuel transfer. After the failure, he thought wing fuel was still being transferred. The flight leader was also unaware that wing fuel would not transfer after total electrical failure.

(d) Because of the compound nature of this emergency (loss of 2 generators plus RAT), the inability to transfer wing fuel was not recognized although both the pilot and flight leader had correctly determined that the external centerline tank would not transfer. Thus, in calculating landing time, the pilot and flight leader incorrectly included the 4000 lbs of wing fuel.

(e) The pilot's fuel counter was indicating 10,900 lbs at the time of electrical failure. Actually, since the counter registers both fuselage and wing fuel, approximately 6900 lbs (fuselage fuel) was all that was available.

(f) The flight leader reported that his fuel consumption was 3000 lbs/hr/engine in the straightaways and slightly more in the turns of the racetrack pattern he was flying. Conservatively estimating total fuel flow at 3500 lbs/hr/engine or 7000 lbs/hr total fuel consumption, the pilot should have had approximately 1 hour of usable fuel from time of power failure. The aircraft, in fact, flew 59 minutes from the time of electrical failure before the engines flamed out.

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(g) Since the loss of electrical power in the mishap aircraft precluded wing fuel jettisoning, the flight leader was attempting to burn off fuel in a racetrack holding pattern. Both NAS Homebase and NAS Auxiliary have E-28 arresting gear. The F-4B NATOPS Manual cites a 38,000 lb maximum weight for this type gear. The flight leader stated he was planning a 40,000 lbs landing weight for the mishap aircraft. Had wing fuel transfer been possible, this landing weight could have been achieved. Since the wing fuel could not be transferred, however, the following weight condition existed at flameout:

Basic Weight (weight and balance handbook)	31,470 lbs
Trapped centerline droptank fuel	4,000 lbs
Trapped wing fuel	4,000 lbs
Two pilots and equipment	400 lbs
Unusable trapped fuselage fuel	200 lbs
Total	40,070 lbs

Continued

THE PILOT and RIO of an F-4B launched from NAS Auxiliary for a scheduled 3-plane, VFR, local training flight. Six minutes later, passing 5000 feet in a military climb configuration, both main generators failed simultaneously. A check of cockpit gages confirmed that all electrical systems were off - no warning lights were illuminated. The RAT (ram air turbine) was deployed, but the turbine blades would not rotate.

The pilot joined up on his flight leader, and approximately 1 hour later, while orbiting seaward of Auxiliary, burning down, both engines flamed out. The pilot and RIO ejected shortly afterwards and were immediately picked up uninjured by nearby fishermen.

A review of the F-4B systems operation and interviews with the flight leader and pilot substantiated that dual flameout and subsequent loss of the aircraft were a result of fuel starvation. The situation developed like this:

(a) From engine start until generator and RAT failure, the aircraft used fuselage fuel. This included an estimated 20 minutes of ground time plus 6 minutes of

Therefore, it is not possible to land a similarly configured F-4B with the previously cited electrical failures at or under 40,000 lbs weight.

A communication foulup occurred when the flight leader, intending to have the mishap aircraft land at NAS Homebase (12,000-foot runway), asked NAS Auxiliary tower personnel if the squadron concurred with this decision. Auxiliary tower personnel relayed, then advised the flight leader to land at NAS Auxiliary (8000-foot runway). The source of this supposed "squadron" recommendation was never identified, but it was not the squadron duty officer or any other responsible squadron personnel.

Although the squadron was conducting flight operations from NAS Auxiliary, it did not provide any operations duty officer type personnel to coordinate

with Auxiliary.

All squadron pilots questioned admitted that until this accident they were unaware that the wings would not transfer fuel with total electrical failure. COMNAVAIRLANT msg 232117Z May 1973, an urgent change recommendation to the F-4B NATOPS Manual, alerted other F-4 activities to this condition.

F-4B electrical systems were reviewed in an attempt to pinpoint potential problem areas which would have given indications of no electrical power *and* no warning lights. The most suspect of the two possible problem areas was a disconnected or loose Bendix connector plug under the front cockpit generator control switch panel. This discrepancy was simulated at NAS Auxiliary using another squadron aircraft. The aircraft was started, and the Bendix plug was disconnected. The systems failures

Interim Changes to F-4B/N/J and RF-4B NATOPS Flight Manuals

References:

- a. F-4BN NFM NAVAIR 01-245FDB-1 dtd 15 Feb 73
- b. F-4B PCL NAVAIR 01-245FDB-1B dtd 15 Feb 73
- c. F-4N PCL NAVAIR 01-245FDN-1B dtd 1 Oct 72 chgd 15 Feb 73
- d. F-4J NFM NAVAIR 01-245FDD-1 dtd 15 Feb 73
- e. F-4J PCL NAVAIR 01-245FDD-1B dtd 15 Feb 73
- f. RF-4B NFM NAVAIR 01-245FDC-1 dtd 15 Jun 71 chgd 15 Aug 72
- g. RF-4B PCL NAVAIR 01-245FDC-1B dtd 15 Jun 71 chgd 15 Aug 72
- h. RF-4B NFM NAVAIR 01-245FDC-1 dtd 1 Jun 73
- i. RF-4B PCL NAVAIR 01-245FDC-1B dtd 1 Jun 73

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2. After "double generator failure," emergency procedure contained in reference a on page 5-23, reference d on page 5-23, reference f on page 5-30, and reference h on page 5-22, add new procedure as follows:

"Complete electrical failure"

In the event of a double generator failure and a ram air turbine failure, neither external fuel tank transfer nor internal wing fuel transfer will be available regardless of fuel control panel switch position prior to the failure. Usable fuel at the time of the complete electrical failure will be indicated by the tape on the fuel quantity gage, therefore, the pilot must time his remaining fuel to adjust gross weight for landing. The only available method for internal fuel transfer will be the hydraulic transfer pumps. In the event of a utility hydraulic system failure, approximately 1500 lbs of remaining fuel will not be available. The utility hydraulic pressure gage will be inoperative, therefore, monitoring of the utility pressure must be accomplished by rudder feel. In any event, regardless of possible multiple failures, the main consideration must be to land as soon as possible giving due regard to available field arresting gear limitations.

Note

Normal afterburner ignition will not be available.

and cockpit indications were identical to those reported in the mishap aircraft.

On the second day of the underwater wreckage search, the generator control switch panel was recovered with wiring bundles and Bendix plug attached. *The Bendix plug was not seated.*

While investigating fuel management problems associated with this mishap, it was discovered that an error exists in estimating fuselage fuel in F-4B aircraft. The F-4B NATOPS Manual, page 1-111, figure 1-31, indicates a total fuel capacity of 8657 lbs of gageable fuel. Incorporation of AFC (Air Frame Change) Nos. 352 and 353 modified the shape of the No. 1 fuel cell to accommodate electronics equipment. This altered shape of the No. 1 fuel cell reduces its capacity by 680 lbs. The F-4B NATOPS Manual does not reflect this. During

flight, the fuel counter should be accurate; however, fuel reserve planning can be erroneous by 680 lbs. In flight, the pilot's fuel tape indicator is accurate.

The RAT in F-4B aircraft is serviced and checked on Phase D of a 6-phase maintenance system. The phases are separated by 60 flight hours. In the instance of the mishap aircraft, flying 20 to 30 hours per month, this system permits a prolonged time between checks. The NAVSAFECEN Maintenance and Material Division is investigating the feasibility of a more frequent system of RAT function checks.

As a result of this mishap, all F-4 activities have been alerted to the fuel transfer problem during a total electrical failure via an interim change to F-4B/N/J and RF-4B NATOPS Flight Manuals and pocket checklists (see accompanying box).

and Pocket Checklists (CNO msg 071920Z Sep 1973)

1. Land as soon as possible.
2. Landing gear — blow down for landing.

Note

Visual check for down and locked indications should be made if possible.

3. Flaps — leave up for landing.

Caution

Pneumatic extension of flaps may induce a utility hydraulic system failure which will further complicate the emergency.

4. Plan for straight-in long field arrested landing if arresting gear available.
5. Fly minimum control airspeed for final approach and landing.

Note

Refer to landing speeds chart for approximate approach airspeeds, with SPC off.

If field landing cannot be made, a one-half flap carrier landing should be attempted only under the most optimum conditions of estimated gross weight, arresting gear limitations, wind over the deck, and weather. If carrier landing not feasible —

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AIR BREAKS

Wing: Lead, shift to button 5.

Lead: Rog.

Wing: How do you read?

Lead: Loud and clear. What do you want?

Wing: Latest Homebase weather reported the spread at one degree. What do you think?

Lead: Keep goin'... Ah... Oh, oh I've got trubs. Going to land.

Chip Off The Old Block. Two TH-57 helicopters out of Ellyson Field were tooling along on a pitch-black, night cross-country. Their flight was a two-legger — out and back. They were on the return leg when the above conversation took place.

About the only lights they saw were those from automobiles, on US 90, below. They had passed Chipley and Bonifay westbound when lead saw his engine chip detector light illuminate. He told his wingman about his problem and nosed over.

At 50 feet, he saw high-tension lines and added power. After

clearing them, he eased the helo back down and at 20 feet heard a snapping sound. He continued to a landing without further difficulties.

Investigation revealed the pilot had flown through a $\frac{1}{2}$ -inch, black telephone wire, but without damage to the helicopter. Moreover, they found the chip light wasn't telling a lie. It came on because the engine oil outlet and accessory gearbox chip detectors were covered with large amounts of metal particles. The aircraft was trucked to Ellyson Field the next morning.

Near Midair. "... You're cleared to descend to 2500 feet. Report reaching."

The P-3 was letting down on a heading of 340 degrees, 160 knots (inbound to the field). As the pilot passed through 3400 feet, he saw a gold and white Cessna 172 pass under him (50 feet below and 100 feet horizontally). Approach

control was advised of the near midair, but reported they weren't painting the Cessna.

The P-3 had all its external lights on, yet the Cessna probably never saw it.

This points out AGAIN the necessity of having heads out of the cockpit in congested areas. (Radar missed the Cessna because of improper antenna angle calibration.)

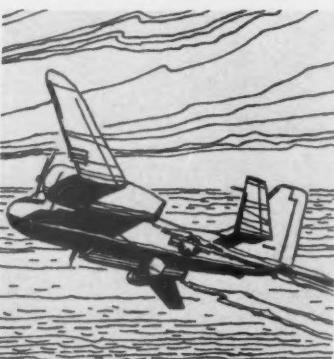
Low Fuel State. An S-2E launched on an ASW training flight and arrived on station about 100 miles at sea at 1830Q. The pilot descended to 500 feet to start the exercise just as the fuel dump light illuminated.

An emergency was declared, and the pilot proceeded at max-range setting to the nearest airport. He made it with 300 pounds of fuel remaining.

During daylight, taxi lights are required by local regs. So, after clearing the control zone, the copilot, intending to secure the taxi lights, unintentionally selected fuel dump.

Both switches are identical lever-lock types separated only by 4 $\frac{1}{4}$ -inches. And, since it was daylight, the fuel dump warning light was not observed.

A change has been proposed to move the taxi light switch panel 10 $\frac{1}{2}$ -inches aft. But, it's still up to the pilots to make sure they actuate the proper switch.



Combat Pay Over CONUS?

Michigan natives may be restless, as the crew of a C-118B will attest. The pilots were conducting bounce drill when they heard a loud noise in the cabin and saw insulation blowing from a couple of air ducts.

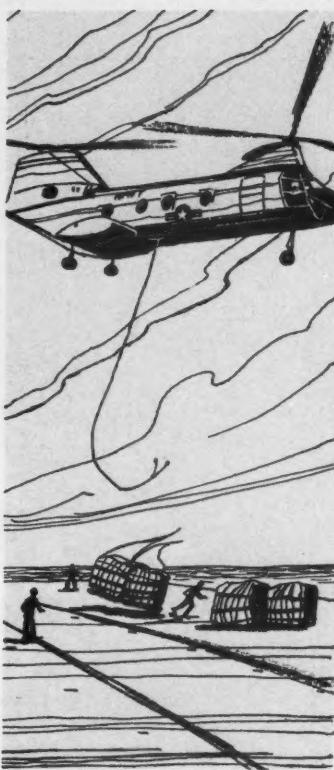
Investigation of the commotion revealed a bullet on the deck that had fallen out of the pressurization system. Also, the navigator felt a pain in his leg and then numbness. He was sitting in the passenger cabin with his leg resting against a bulkhead. The bullet entered the aircraft and struck the bulkhead which caused the minor leg contusions.

The bullet, fired from the ground, struck the No. 3 prop, ricocheted upward, passed through a longeron stringer, glanced off the bulkhead, went through a heating duct, and spent itself inside the aircraft.

Whap! During VERTREP, the pilot of a CH-46 had lifted a load about 1 foot off the deck when the pelican hook released from one side of the load. The cable broke before the HAC could get the load back on deck, and the hook flew up and embedded itself in the helicopter's skin, near the lower cargo hook door.

After the deck had been cleared, the HAC made a precautionary landing. His crewmen had pulled the pendant and attaching equipment into the helicopter, thus permitting the HAC to land without further damage to the aircraft. The cause of this incident was suspected to be inadvertent opening of the NEWCO safety hook.

Unclear, Uncoordinated, and Unconcerned. Two pilots and a crew chief were rounded up from various offices at Islandhome one day to man a *Huey*. It was to be a



passenger flight.

The requirement to transport the passengers had not been *positively* confirmed but was *pretty* firm. It was not on the daily flight schedule.

The ops duty officer received the call that put the wheels in motion. He called the copilot first and told him to meet the pilot at the aircraft. Other calls alerted the pilot and crew chief.

Meanwhile, the passengers were escorted to the helo, and they climbed aboard. Prior to engine start, the pilot sent his crew chief to the hangar to get some additional survival gear for the passengers and another crewman for the flight. Upon return to the helicopter, the crew chief, without preflighting the aircraft, started the NC-5.

The two pilots, who had not bothered with a brief, strapped in and began a start. Neither had preflighted the bird, and the start was attempted with the rotor blade tied down.

Fortunately, no damage resulted although the starter/generator heated up and began smoking. The reporter of the incident had several comments about this near accident:

- An incomplete crew assignment was made.
- The pilot did not conduct a cockpit brief.
- The challenge and reply checklist procedure was ignored.
- No one made a preflight inspection.
- The director, late on the scene, failed to check the area before giving the signal "clear to engage."

Bridle Path. An SH-3G was spotted abeam the lens, between the No. 3 & 4 catapults, after the last night recovery and prior to the ship setting a 5-minute alert posture.

Four bridle no-loads were shot on cat No. 4 after safety lines were positioned and the word to clear the general area was passed over the 5MC. After the no-loads were completed, the safety lines were removed.

Next, the catapult shuttle was maneuvered forward for stowing in the water-brake. Prior to this final positioning of the shuttle, however, the fuel crew attached a fuel hose to the helicopter pressure refueling point. As the shuttle moved forward, it carried the fuel hose with it.

The tension tore the fuel hose from the helo causing damage requiring 80 to 100 man-hours to repair. The squadron reported lighting conditions so poor that they recommend a walker proceed with the shuttle when it is moved at night with aircraft spotted nearby.



AIR TRAFFIC CONTROL

By John E. Berta
FAA Liaison, Naval Safety Center

THE SUCCESS or failure of the ATC system depends on the cooperation, teamwork, and understanding between the principals involved — the pilot and the controller. What are the parameters of the pilot/controller authority and responsibility?

The foremost precept — one that must be clearly understood as a prerequisite to proper comprehension of a pilot-controller relationship — is that the pilot has the ultimate responsibility for all decisions affecting safety in flight. The pilot alone knows the capabilities and limitations of himself and his aircraft. Federal Aviation Regulations, therefore, place upon the Navy and pilot in command the final responsibility for the safe operation of his aircraft.

The role of the controller is quite different. His function is to assist the pilot in carrying out this responsibility by providing separation from other aircraft in the ATC system and, to the extent of his time and abilities, provide advice and helpful information. His primary responsibility is in authorizing the flight in such a manner that aircraft under his jurisdiction shall be safe

from the hazard of mid-air collision. His basic concern, therefore, is not with an aircraft as an individual entity but, rather, with the interrelationship of numbers of aircraft.

A clearance issued by ATC is predicated on known



traffic and known physical airport conditions. An ATC clearance means: an authorization by ATC for the purpose of preventing collision between known aircraft and for an aircraft to proceed under specified conditions within controlled airspace. *It is not authorization for a pilot to deviate from any rule, regulation, or directive to conduct unsafe operation of his aircraft.*

FAR 91.3(a) states: "The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft." If ATC issues a clearance that would cause a pilot to deviate from a rule or regulation or, in the pilot's opinion, would place the aircraft in jeopardy, *it is the pilot's responsibility to request an amended clearance.* Similarly, if a pilot prefers to follow a different course of action, such as landing on a different runway or delaying his operation, *he is expected to inform ATC accordingly.* When he requests a different course of action, however, the pilot is expected to cooperate so as to preclude disruption of traffic flow or creation of conflicting patterns.

When weather conditions permit, during the time an IFR flight is operating, it is the direct responsibility of the pilot to avoid other aircraft since VFR flights may be operating in the same area without the knowledge of ATC. Traffic clearances provide standard separation only between IFR flights.

When air traffic control issues a clearance, pilots are expected to execute its provision after acceptance. Any clearance in which the time of pilot execution is optional will state — "at pilot's discretion." Appending the term "at pilot's discretion" to an air traffic control clearance means that air traffic control has offered the pilot the option to initiate the terms of the clearance whenever and however he wishes.

When air traffic control issues an instruction, pilots are expected to comply with its provision upon receipt. ATC, in certain situations, will include the word "immediately" in an instruction to impress urgency of an imminent situation, and expeditious compliance by the pilot is expected and necessary for safety.

One factor that must be kept in mind at all times is that you must fully understand the clearance issued. In the event that there is any doubt whatsoever in your mind, *do not hesitate to ask for a clarification.* Don't think that you will appear stupid if you have to ask for a repeat. *Do* think about how stupid you will appear if an incident or accident happens because you weren't quite sure and didn't ask for a repeat. To paraphrase an old saying, *there are three things that are utterly useless to you as a pilot, (1) the runway behind you, (2) the preflight planning you did not do, and (3) an ATC clearance you do not understand.*



Bravo

CAPT Joshua D. Tallentire and MAJ Henry S. Carr III, VMFA-333



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ON 18 May 1973, CAPT Tallentire and his RIO, MAJ Carr, were flying wing in a section of *Phantom* F-4Js during air combat maneuvering out of MCAS Beaufort. The flight was being radar vectored toward their TA-4F target.

CAPT Tallentire was the first to spot the bogey and began a maneuver to the rear quarter. As he pulled approximately 4G, the aircraft rolled violently left as the left outer wing panel, from the wing fold outboard, separated from the aircraft. The panel struck the aft dorsal in the area of the fuel tanks, creating a massive fuel leak which ignited and caused a fire trail described by the section leader as extending several hundred feet behind the aircraft.

Both aircrewmen experienced

intense, positive and negative G forces as the aircraft rolled and gyrated wildly at supersonic speed. CAPT Tallentire remained calm while he reduced speed to stop the yaw rate and regain control of the aircraft. He had lost nearly 25 percent of his left wing, had a hole in the fuselage measuring over 3 feet in diameter, fire damage to the stabilator actuator, loss of his utility hydraulic pressure, and intermittent ignition of the leaking fuel.

Turning toward homebase, CAPT Tallentire ascertained that 230 knots was the minimum controllable airspeed as full right stick and maximum rudder deflection were required to maintain a wings-level attitude at that speed. He also discovered that this minimum control speed could not be maintained with flaps down.

CAPT Tallentire planned his approach so as to avoid all populated areas. Lowering his gear,

he flew the final approach at 250 knots. Just over the runway threshold, his airspeed dropped below 240 knots, and the aircraft started to roll left. He immediately applied maximum right rudder, full forward stick, and full military power to recover and touched down at nearly 100 knots above normal landing speed. He was able to maintain control throughout the high velocity rollout and engaged the arresting gear at about 100 knots.

Postflight examination of the aircraft revealed a material failure of the lower left aft wingfold locking lug. The information thereby made available has resulted in extensive inspection and modification efforts to prevent similar failures in other aircraft.

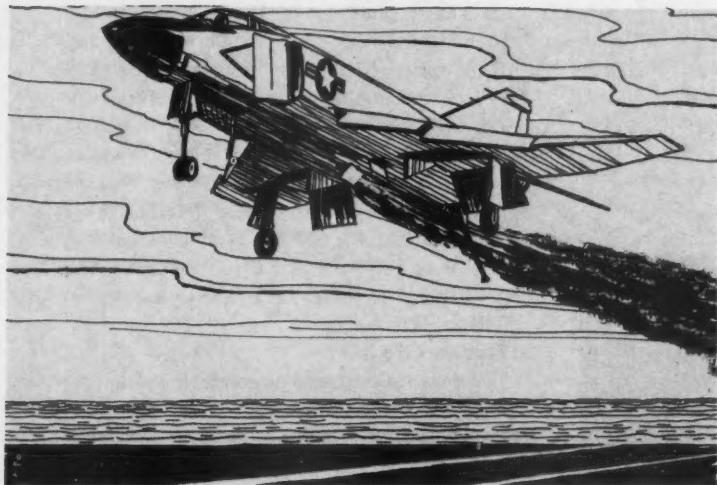
CAPT Tallentire, by his outstanding professionalism, prevented possible injury or loss of life and saved a valuable aircraft.

Well done!



Zulu

LT John E. Padgett and LCDR James J. McDevitt, Jr., VF-92



SECONDS after LT Padgett and his RIO, LCDR McDevitt, launched from CONSTELLATION, LT Padgett noted that the gear handle light stayed on and the indicators continued to show three down and locked. The gear handle had been raised as the bird cleared the catapult.

Before LT Padgett had an opportunity to evaluate this malfunction, the starboard engine overheat light of their F-4J came on bright and steady. He immediately deselected afterburner on that engine. The light remained on, so he continued moving the throttle aft, reducing power to idle.

While reducing power, the starboard fire warning light illuminated. Fuel flow and EGT gages were fluctuating rapidly, so he attempted to secure the engine with the throttle while LCDR McDevitt transmitted to Primary that they had a fire warning light

and couldn't raise the gear.

The Air Boss replied, "Start your dump, and we'll have a ready deck by the time you reach landing weight." LT Padgett was unable to move the starboard throttle out of the idle detent, so he selected engine-master switch OFF. Wing fuel dump was selected. The aircraft was near single-engine max gross, so he focused his attention on flying the aircraft out of the 200 knot, 400 feet MSL situation.

Rate of climb and acceleration were negligible, so he pushed the emergency stores jettison button. Aircraft weight was instantly reduced by 7000 lbs. The aircraft literally jumped out of the hole, and a positive climb was quickly established. LT Padgett levelled at 2000 feet and brought the port throttle out of burner.

By this time, another aircraft had rendezvoused with the F-4 and, after checking for the source of the fire, transmitted that there was

substantial fire along the starboard side. Flames were coming from the area of the aux air door, lower engine bay, and the variable nozzles. Using military power on the port engine, LT Padgett had started a gentle left turn downwind when the port fire warning light came on. Several circuit breakers popped, including the flap circuit breaker, and the wheels-warning light began to flash. A slight power reduction put out the fire warning light, and the port engine instruments remained normal.

Approaching a wide 180, the crew agreed to attempt a landing. The Air Boss gave them a "charlie." The landing gear was still down and apparently locked, but the flaps had to be blown down because of an unseatable circuit breaker. Gross weight was close to 39,000 lbs, and controllability normal for a single-engine configuration. Airspeed was slowly reduced from 180 knots at a deep 90 to 162 knots over the ramp. The *Phantom* engaged No. 3 crossdeck pendant.

The aircraft was still rolling aft in the gear as the crash crew scrambled underneath with fire hose and PKP extinguisher, smothering the flames coming from the starboard aux air door.

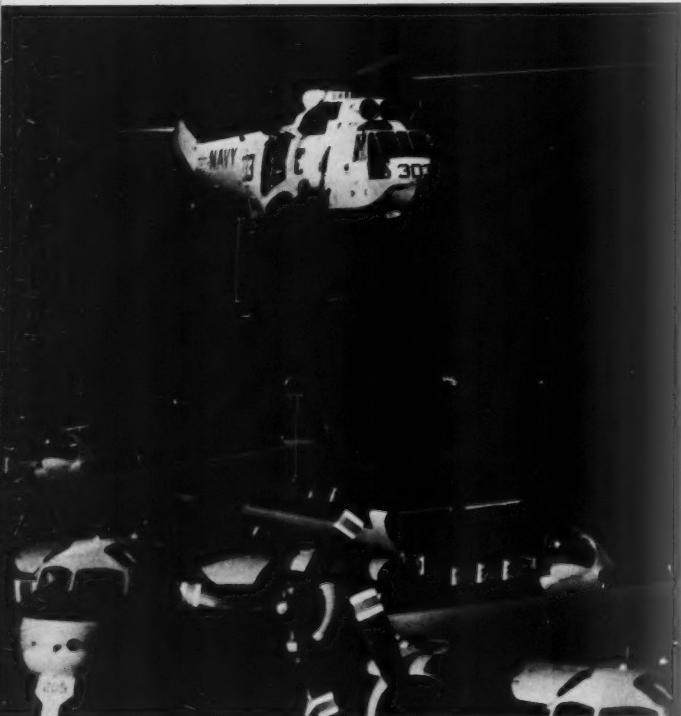
COMNAVSAFECEN joins with other commanders in praising the remarkable airmanship, courageous action, foresight, and intimate knowledge of the F-4 by its crew and the timely and professional assistance of CONSTELLATION officers and men which resulted in the safe recovery of this valuable aircraft.

Well done to all!

Contributor's Corner

Twenty-Five

LEGEND has it that LTJG George Gilpin, a grand gentleman of naval aviation and a pioneer helicopter pilot of the early 50s, would go aboard a CVA and immediately confront the Captain. "Skipper, sir," he would say in his best "Kingfish" accent, "I'll fly that damn contraption anytime you want me to as long as you put the winds where I want 'em."



By CDR M. J. Marriott, USN
Commanding Officer, HC-2

I remembered that story upon hearing that an SH-3G had been splattered all over the front end of a CVA in a wind-associated accident.

The SH-3G was spotted 200 feet abaft the bow, port side, with part of the main rotor blades extending over the deck edge. A man overboard drill had been sounded, and the helo crew hustled to man their helicopter. (It is noteworthy that the SH-3G was a brand new type of helicopter to this particular CVA – aboard for the first time. During her last deployment, the smaller H-2 helicopter was embarked; it can be launched much quicker than the H-3.)

The crew manned up immediately, and after running through the checklist, the HAC reported up and ready. The air boss cleared the pilot to lift and reported winds as 090° starboard at 15 knots.

The drill ended some 15 seconds later in a major aircraft accident. When the pilot pulled in collective, the nose swerved rapidly to the right. Full left rudder by the pilot could not control the swerve. Fearing complete loss of control, he dumped it on the deck. By this time, being so close to the deck edge initially, the tailwheel was over the catwalk. A severe porpoising began, and to prevent sliding off the deck edge, the pilot put in full forward cyclic, zapping the avionics compartment on the deck and chewing up the ice shield with the rotor blades. The engines were fuddled by the ice shield, and the deck edge broke the keel.

The engines were secured, the rotor brake was applied, and when the rotor blades stopped, the crew departed, uninjured. The LSE had banged up his shoulder getting out of the way, but no one else was injured.

The air boss remembers checking the wind as the



Years... and Still Holding!

accident happened as being 095° starboard, 16-17 knots. A minute or two later, he saw the wind between 110-120 degrees starboard, 20 knots. The assistant air officer also checked the wind indicator and saw the latter direction and velocity indicated on the gage.

Several questions arise from the pile of twisted and torn metal:

- Why wasn't the pilot's "up and ready" report sufficient to end the drill? The winds were unfavorable and getting worse because of the ship's turn to port.
- Do we need a priority system on rescue vehicles for man overboard? There is a definite dichotomy in shiphandling when we simultaneously try to launch the helo and maneuver to lower a boat.

that absolutely nothing had changed. Problems identified and documented 25 years ago were still unsolved. The consensus of the readyroom was that the accident was not at all unexpected, and that the conditions prior to takeoff, stated and experienced by the pilot in this accident, were common, everyday occurrences on most CVAs. *They were the same 25 years ago.*

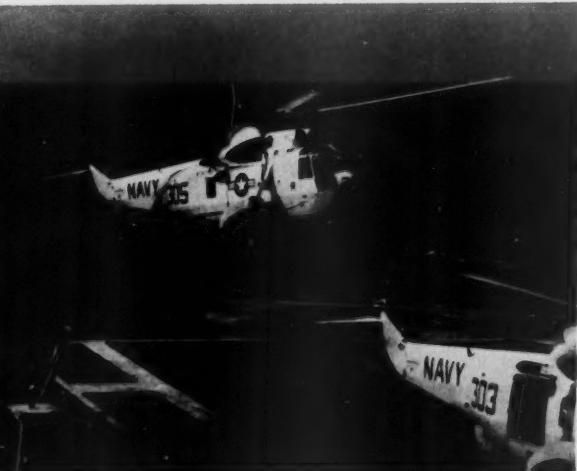
In February 1947, LT Bob Shields of VB-18 developed engine problems in his SB2C on takeoff from the LEYTE and was quickly plucked from the icy waters by a Sikorsky test pilot who was demonstrating the HO3S as a utility helicopter aboard another carrier. A new rescue vehicle had appeared on the scene. The many advantages of launching a helicopter to retrieve a man overboard or a downed aviator were obvious. Other routine at-sea evolutions like conferences, dental appointments, and mail delivery were quickly adapted to the versatile helicopter.

By using the helo, ships could stay dispersed and relieve the Bosun (not to mention all those linehandlers) from either putting a boat in the water (method of transfer used for hundreds of years in various navies of the world) or using the cumbersome highline transfer. To emphasize this point, a recently returned helicopter detachment made over 4600 personnel transfers and delivered 120 tons of mail on a 10-month cruise. The O-in-C cannot remember seeing a single highline transfer.

Many evolutions are now routinely accepted as being made solely by helicopter. But not "Man Overboard". In this evolution, the aircraft carrier reverts to the tried, true, and time-tested procedures of the Continental Navy and handsomely maneuvers its 80,000 tons of steel in a Williamson turn to lower a motor whaleboat for the rescue. Meanwhile, on the flight deck, the helo crew is faced with a listing deck and a constantly changing wind. The only basic requirement for launching the helicopter is a steady wind, within limits for engagement and takeoff, on the nose of the helicopter.

My contention is that the helicopter should be the primary vehicle for rescue. The motor whaleboat should be secondary.

Continued



• Since the entire deck forward of the island was clear and it was the intention to launch the helicopter, why wasn't the helo spotted inboard — away from the deck edge turbulence — in an area where full ground effect was available?

• Why wasn't the HAC given wind on the nose for takeoff?

Returning to the helicopter combat support community after a decade in various other career enhancing billets, the thing that most impressed me was

The ship should maneuver to expeditiously engage and launch the helicopter and then maneuver to launch the whaleboat, if considered necessary. If a decision is made by the Captain to reverse this procedure, then the helicopter's portion of a drill, or an actual man overboard, should be concluded with "Angel up and ready."

I was recently tasked to provide a helo for a CVA, to ride the ship from her homeport to the Norfolk Naval Shipyard. The sole purpose of this mini-det was rescue in the event of a man overboard. No flight operations were scheduled or anticipated during the transit.

This is not uncommon. The Fleet Angels are always the last of the air group to leave a ship. There are, of course, utility missions that come up at the last minute; but primarily, it is their rescue potential that is most desirable to keep around. In light of this, and the obvious importance of the helicopter in today's Fleet evolutions, it distresses me that after all this time it is still necessary to remind some people that helicopters are subject to the same general wind direction and velocity limitations for landings and takeoffs as fixed-wing aircraft.

In actual life or death emergencies, a helicopter *can* take off and land outside the prescribed limits, *but only with a certain degree of risk*. The risk should be carefully calculated with respect to the emergency. A man overboard *drill* is not an emergency.

For 25 years, the helicopter has fought for survival in the attack Navy. It has been subjected to all sorts of indignities — down the throat landings, rotors over the

A review of all operating conditions and the understanding of those publications controlling helicopter evolutions (single rotor) is of prime importance in maintaining safe mission completion and helicopter effectiveness. The following are operating areas in which the helicopter is especially vulnerable.

A. Non-compliance with wind restrictions for launches/recoveries, i.e., downwind landings, 90° wind for takeoff,

B. Personnel transfers to ships alongside when the wind is blocked or no direct waveoff route is possible (see photo opposite).

C. Number of unauthorized personnel on the flight deck when in-port flight ops are conducted, e.g., four personnel, sunbathers, work crews.

D. Communications of an advisory nature at night ensuring that helo is made aware of all course changes.

E. No need for helo to maneuver prior to reaching safe altitude on night IFR launches.

F. Long, overwater logistics flight without SAR backup or middleman coverage.

G. Need for all approaches at night or under IFR conditions to be CCA to a mirror centerline landing.

H. Stress importance of a requirement for a watch to ensure safety of the plane guard helicopter especially at night under EMCON.

I. Proper deck spotting for day and night takeoff transitions to provide the pilot sufficient deck reference especially when launching from the angle at night.

J. Number of authorized personnel who routinely observe R&A aviation ship transfers/delivery operations.

K. Proper passenger briefs flight gear for personnel being transferred at sea.

L. Night transfers when not of emergency nature should not be condoned.

Realistic compliance with appropriate NATOPS manuals and NWP 42 by both aircrews and ships' personnel will go a long way to help prevent helicopter accidents embarked. Many of the problems outlined above are long standing and well known throughout the helicopter community, but are routinely condoned under the guise of operational necessity.





deck edge, and landing in the pack gas while the ship is turning. I was once asked by an air boss to engage in between gusts of 30-45 knots!

Accidents and incidents have been numerous: 36 wind-associated accidents in one squadron alone. Generally, however, there have been few changes in the way helicopters are operated. The learning curve on helicopter operations has levelled off, with minimal learning lasting only from accident to change of air boss.

Even in today's concept of readiness through safety, there is an apparent paradox. Helicopter operations are still not to interfere with the ship's schedule. There is a certain disdain for helicopters that places them in the ship's hierarchy of vehicles somewhere between the Captain's sedan and the Admiral's barge.

For example, a single (one airplane) fixed-wing launch or recovery alerts the entire ship to flight quarters. The carrier heads into the wind, speed is increased or decreased to give the correct end speed, stations are manned, cameras are turned on, etc. — in fact, the works. Even when the helicopter is part of this evolution — for instance, plane guard — it is not necessarily included. The launch starts only with the first fixed wing off, and the recovery all too often ends with the announcement: "Recovery complete, land the Angel." Sometimes the ship will stay into the wind for the helo recovery — mostly not.

Commentary: A Newsman's Opinion

THE THING is, helicopters are different from planes. An airplane by its nature wants to fly, and if not interfered with too strongly by unusual events or by a deliberately incompetent pilot, it will fly. *A helicopter does not want to fly.* It is maintained in the air by a variety-of-forces and controls working in opposition to each other; and if there is any disturbance in the delicate balance, the helicopter stops flying immediately and disastrously. There is no such thing as a gliding helicopter.

This is why being a helicopter pilot is so different from being an airplane pilot, and why, in general, airplane pilots are open, clear-eyed, buoyant extroverts, and helicopter pilots are brooders, introspective anticipators of trouble. They know if anything bad has not happened, it is about to.

In conclusion, a brief summary of how to avoid the next wind-associated helicopter accident:

- All helo pilots must know their NATOPS manual and be prepared to stand by it. Should you refuse to take off or land by virtue of violating NATOPS, be ready to point out the page number and paragraph.
- Air bosses should be as familiar with helicopter NATOPS as with the COD's or F-4's. Go fly with the helos sometime; see for yourself what it's all about. Don't pass up the helicopter brief that's included in the Aviation Boatswain's Mate School at NAS Lakehurst.
- With the CV (*and helo — Ed.*) here to stay, it might be a worthwhile investment to send prospective carrier COs to a short helicopter indoctrination course at HS-1 or HS-10, much as they used to with prospective LPH skippers.
- Crosswinds invite problems and dramatically reduce the margin for error.
- Clear NATOPS warnings such as "avoid whenever possible" should not be used as an "out" for operational convenience.
- Six months before this accident, HC-2 made recommendations shown in Fig. 1 on how such accidents could be prevented. These recommendations are still important and are invited to the attention of all ship handlers, big and small.

Finally, the reason I make this plea is contained in this excerpt from an O-in-C's letter to me:

"The ship continues to try every conceivable way to provoke an accident. I have found that my voice gets lost in the wind, but official, signed memos . . . get instant results."

Twenty-five years . . . and still holding, George!

Twenty-five years and we're still bustin' helos despite all the data and expertise we've accumulated. Boss: Know what's in the NWP and CVA-CVS and helo NATOPS and give the helicopters an even break. Pilots: Know your bird's (and your own) limitations and speak up if it's not "kosher." — Ed. □



ON THE GROUND,
RUDDER ALONE
MAY NOT BE SUFFICIENT

By Jay R. Beaman

DURING the early stages of P-3 pilot transition, the instructor usually demonstrates the advantages of aileron deflection during ground roll. The purpose of this demonstration is to illustrate that rudder alone may not be sufficient to correct for a yaw during adverse conditions. Adverse conditions would be power loss on an outboard engine at a critical speed on takeoff and inoperative engines during reversing. The technique of using aileron to aid marginal rudder control is not limited to the P-3, as many pilots have assumed.

Ailerons are effective for steering on the ground because of the up travel being greater than the down travel in degrees of deflection. The wing with up aileron will have the greater drag creating yaw in that direction. In addition, aileron deflection will affect the footprint

pressure and area of the tires creating a difference in frictional drag. The combined forces can be used to a great advantage, but sometimes to a disadvantage.

It is a natural tendency for a pilot to try to steer an aircraft with his hands when a wheel is available. Handle bars would no doubt produce the same results. Since childhood, these two controls have been available as a means of changing direction. There is little or no tendency to steer with a control stick even though it would produce the same results.

It is recommended during crosswind takeoffs to hold a slight amount of aileron into the wind to attempt to equalize wing drag. The windward wing has an effective higher angle-of-attack, and a slight amount of up aileron will somewhat relieve it. At this time, the rudder will

About the Author

Jay Beasley has been friend, ground and flight tutor, and inspiration to VP pilots for more than a generation.

He was a one-man RAG in P-2s before the establishment of a training squadron.

He is widely known throughout the P-3 community for his instruction and flight safety and NATOPS refresher courses.

He holds both an ATR and an A&E license. He has been a self-employed instructor and charter pilot, civil service ferry pilot for the Army during WW II, executive pilot for an oil company, airline pilot, and 23 years a Lockheed production, test, and instructor pilot.

Beasley was awarded the DISTINGUISHED SERVICE MEDAL (the Navy's highest civilian award) by SECNAV 2 years ago for services in transitioning fleet pilots to the P-3.

effectively be in the opposite direction to prevent weather-cocking. Identical action should be taken during crosswind landing rollout.

The use of ailerons *only* to maintain heading on touch-and-go landings is poor practice. Here again, the rudder is the primary control, and ailerons are not needed. Aileron deflection in fact changes the airfoil and causes loss of lift. Pilots who steer primarily with ailerons are one step behind the aircraft. Should a yaw suddenly develop, the first action would be to apply aileron followed by rudder and sometimes brakes.

During normal, full-stop landings, the rudder should

be used as the primary control for maintaining direction. With power set evenly any place in the Beta range, the rudder is very effective down to a comfortable low speed. Overcontrolling with ailerons, followed by out-of-phase footwork, and random asymmetric reversing, with an individual brake application or two, are the main causes of mishaps on (or off the side of) the runway.

A contributing factor to the mishap rate in 2-engine landing practice is the incorrect use of ailerons. Objectively, the ailerons should be used to counteract the yaw created by reversing two on one side. They should be held in full deflected position until their effectiveness is minimal. In the case of an actual 2-engine landing, it would be highly desirable to spoil the lift on the wing with the inoperative engines. Since no reverse flow of air is available, this can only be done with up aileron which in addition creates frictional drag on the footprint. Directional adjustments should be made primarily with rudder. The ideal amount of reverse applied would be that sufficient to maintain heading with full opposite aileron and approximately three-fourths opposite rudder. A slight amount of rudder travel is retained for changes in the wind. Should less rudder be required, more reverse thrust can be applied. Random aileron movement is apt to set up a chain of events leading to a mishap.

Rudder is the primary directional flight control during ground roll. Ailerons should be used as an aid only when the rudder is inadequate.



Water Survival

16

A NIGHTTIME, low-level VP/SS training mission that ends prematurely with an unintentional ditching is the setting for this recounting of events. The night is black. There is no moon. The seas are calm with light and variable winds.

Airspeed of the aircraft at time of ditching is 205 knots in a near wings-level, slightly nose-high attitude. With the exception of maneuver flaps, the aircraft configuration is clean.

Cause factors are irrelevant as we are concerned here only with survival aspects. Of the 12 crewmembers on board, only four survive. The following is their story as narrated by each survivor during the mishap investigation.

PPC: It just seemed like all of a sudden the water was there — right there in front of me. When I first saw it, I said to myself, "My God! You've flown into the water!"

The next thing I knew, I was under water still strapped to my seat. I felt inverted although I'm not sure whether I was or not. I was sinking rapidly.

I released my seatbelt and pushed out. When I did, my shoulder strap became tangled on something jagged which cut my hand as I tried to get free. About this time, I thought about the wife and kids and told myself, "No damn water is going to get me!"

With one final effort, I was able to free myself and start my ascent to the surface. At about the same time, PDC explosions occurred at about my level in close proximity. I felt solid concussions when they exploded.

I was quite a ways down and wanted to breathe. It seemed like forever, but I'm sure only seconds had elapsed. This is where previous SCUBA training came to my aid. I kept telling myself all the way up to the surface, "You don't have to breathe. Just rising through the water will take care of the urge to breathe." I kicked and I kicked for what seemed like forever before I finally broke the surface. It was rather odd because by the time I surfaced, I had really convinced myself that I could stay down forever.

About this time, my boots started to weigh me down. I leaned down to untie them, but couldn't breathe as my head was below the surface again. Then I remembered my Mae West. After inflating it, I lay back, and in about 10 to 15 seconds resurfaced again.

I looked around. Fire was everywhere even though I was clear of it. About 30 yards away, I saw my TACCO and shouted to him. He said he was all right. Beyond him, I saw a partially inflated raft. We both started towards it.

TACCO: It happened so fast — just an instantaneous explosion. The aircraft was just gone. I didn't feel any heat. I was spinning around clockwise as fast as a top. The spinning is very vivid in my mind. I didn't get out of the aircraft or anything. The aircraft evidently just disintegrated around me. I never felt a piece of it.

It was very dark under the water, and at this time, I was not sure that I was clear of the aircraft. I didn't swim upwards because I thought I might still be in the



fuselage and was afraid of confirming my fears. However, this was not the case.

As I came to the surface, my hair, eyebrows, and eyelashes were singed. I dived back under to escape the flames, came to the surface with splashing movements to clear enough surface to catch a gasp of air, then went back under. I had to swim about 30 yards to clear the burning fuel.

On the way up to the surface, I remembered the burning oil swim I was taught at Pensacola – especially the part about not actuating your mae west until you get to the surface and find out what's up there. If I had actuated the mae west earlier, I don't think I would have survived, for the flames were very intense.

After I got clear of the flames, I popped my mae west and rested a minute, taking in the entire scene. About 30 yards away, I saw my PPC. In the other direction, I saw a partially inflated raft. We both started swimming towards it. I guess it took us about 4-5 minutes to reach it. About this time, I realized that my flight suit was completely missing from the waist down with the rest in complete tatters. Although the water temperature was 70°F, it felt very cold, and I started to shake and tremble uncontrollably.

The mae west caused some trouble in swimming because the inside hook was too loose, allowing the vest to ride up too high on me. It should have been tighter. I tried to tighten it in the water, but couldn't. My hands were too cold. I remember noticing shortly before the

crash that the JEZ operator wasn't wearing his mae west. I told him to put it on. When I got to the raft, he and the JULIE operator were already in it. I don't know if he would be with us today if he hadn't had his mae west on. I never realized the importance of survival equipment before this accident.

JEZ Operator: I was watching the AQA-1, backing up the JULIE problem, with my feet propped on the edge of the console. Then I heard and felt an explosion. The plane started trembling and jumping all around. I began tumbling very fast inside the aircraft. Flames and light were all around me. Everything just seemed to fly apart. The last thing I remember before finding myself in the water was that I couldn't believe it. I just looked around and said, "This isn't happening!" I just couldn't believe it!

Next thing I knew, I was under water and swimming towards the surface. When I got to the surface, there was a lot of fire all around. I still thought I was dreaming. There was nothing but fire all around, so I went back under and splashed around until I was clear of the fire. Then I inflated my mae west and finished filling it with the oral inflation tube. My hands were burned badly and were of little use to me.

I still didn't believe it was happening. I still thought I was dreaming. I looked around and didn't see anything but fire. Then I heard the raft inflating. I looked around for it and saw it a short distance off. I swam over to it, and the JULIE operator who was already aboard helped

me in. We then heard the PPC and TACCO shouting. We shouted back and blew whistles and everything else.

I don't think it would have done any good to light up a flare. They wouldn't have been able to see it because of all the fire. We had to splash a lot to keep the fire away from the raft. It was real hot out there.

JULIE Operator: The airplane started to shake and vibrate. I grabbed the ECM camera which was on the ECM scope because I was afraid it might fly off and hit somebody. I tried to lift it up and put it on the floor. There wasn't any warning or anything. I thought we were going through a rough cloud. Then I was thrown forward. That was the last I remember until waking up in the water.

I swam up to the surface which was on fire. I did something like a fire splash to get away from it. Then I inflated my mae west and found a raft and inflated that, too. Only half of it inflated with the other end drooping below the surface of the water. I managed to climb in and was starting to look around to see what was what when the JEZ operator swam up to the raft. I helped him in, and then we sat there for, I guess, a few minutes. I was blowing my whistle and shouting. A few minutes later, we heard the PPC and TACCO shouting.

* * *

Although all four survivors made it to the raft, they were still faced with survival problems. Of the four, only the PPC had complete use of his hands. Burns, combined with shock and chills, had made the others nearly useless. Although the PPC had jagged cuts on his hands and forehead, he was able to connect the manual air pump to the raft for further inflation of the half which had drooped beneath the surface. Bleeding wounds contributed to the anxiety of the crew for fear sharks would be attracted to the scene.

After considerable pumping, the uninflated portion of the raft began to inflate and slowly came to the surface. As the PPC became exhausted from exertion, the TACCO relieved him at the pump. He was only able to pump 3 or 4 strokes before he was forced to stop because of his physical condition. The other two survivors were also unable to help because of their physical disabilities.

When the raft started to deflate and go under, the PPC again manned the pump and continued pumping until near the end of the survival episode.

In the meantime, upon COMEX, the submarine followed the prescribed exercise maneuvering, noting

A review of even the most obvious material never hurts anyone. Even professionals forget important information with time.

each PDC it heard in its log. After 15 minutes into the problem, no further PDCs were heard. At FINEX, the submarine came to periscope depth and attempted to establish communications with the exercise aircraft. Failure to establish communications with the aircraft and failure to sight the aircraft visually alerted the submarine that SAR efforts should be implemented.

Thirty minutes after FINEX, and after maneuvering to clear a merchant ship, the submarine surfaced to increase its search capability. Forty minutes later, red flares were sighted and, after an additional 10 minutes, the raft was sighted and survivors brought onboard.

While the submarine was searching, the survivors in the raft were trying to attract the attention of a passing merchant ship with various night signals. The PPC gave his strobe light to the man who was sitting the highest out of the water on the back of the raft. It was this signal that was first spotted by the rescuing submarine. With great difficulty, the TACCO screwed on five of the flare cartridges to his pencil flare gun and, averaging about five attempts on each, was able to fire them successfully, although with great difficulty. These signals were also easily sighted by the submarine.

Because of excessive trembling, the TACCO was unable to attach and fire the remaining cartridges. Upon hearing engine noises, the PPC stopped pumping and fired off a night flare. In an attempt to conserve flares, the PPC lit off the day end of the flare, but forgot to dip this end into the water to make it a night flare. The resulting heavy smoke engulfed all the survivors and produced a great deal of coughing and choking. When he threw the flare away, the smoke cleared, and the submarine pulled alongside to effect the rescue.

The most noteworthy aspect of this survival story is that there were any survivors at all.

None of the survivors could account for how they entered the water. Inspection of the raft revealed several small cuts, possibly caused by the raft exiting the aircraft. The remaining survival equipment worked as advertised with the exception of one mae west which had two of the three compartments torn. The remaining compartment functioned normally, producing sufficient buoyancy to aid the survivor.

In summary, survival training was the key to the successful efforts on the part of these four men to survive this trying ordeal. Knowledge of their equipment and its proper function contributed significantly to their survival. *The importance of survival equipment and knowledge of its use cannot be overemphasized.* ▀

Flight Surgeon



FOG- In The Cockpit

THE PILOT began a TACAN approach with radar vectors to the final approach course. The controller passed the weather to him as 2200 scattered, 3000 overcast, one and one half miles visibility reduced by fog.

(Fog? Right there was a clue for the pilot to hold a little rap session with his copilot and plane captain. He did not.)

The copilot attempted to contact the tower and, upon receiving no reply, asked the plane captain to check the frequency. The copilot tried a second time, again no luck, and broke his scan to verify the frequency set in the control box.

At this point, the pilot looked back to signal the plane captain to lower the gear. Almost simultaneously, he saw a patch of ground in his peripheral vision. Looking up, he saw trees ahead, two-blocked the throttles, and waved off. The aircraft struck the tree tops before climbing clear. The pilot proceeded to his alternate and landed.

Investigation revealed the aircraft had incurred substantial damage, but no one aboard was injured. The weather at the time had deteriorated to below minimums, but this information was not passed to the pilots. Regardless, what in the world was the pilot doing *500 feet below the minimum authorized altitude* where he contacted the trees?

The mishap board brought out the lack of communication, the absence of coordination, and the very casual attitude about the approach by those in the cockpit. The following points were made:

- The pilot didn't brief his crew regarding their duties during the approach.
- Both pilots misread the approach plate.
- The pilot failed to configure the aircraft properly for the approach.
- The copilot failed to perform his specific functions.
- Both pilots failed to adhere to NATOPS procedures.
- The controller failed to provide the pilot with essential weather information.

This article presents some thought-provoking questions concerning instructor pilot selection and squadron pilot training programs. Proper selection and training of well-motivated, well-qualified pilots for instructor designation is strongly endorsed. A well-balanced pilot training program should go beyond designation as an aircraft commander. It should provide for, in writing, the minimum familiarization training required for instructor pilot designation. This article is worthy of consideration in developing solid flight training programs for all Pacific Fleet patrol squadrons.

COMPATWINGSPAC



P-3 PILOT TRAINING

By VP-31



"RECOMMEND greater emphasis on emergency procedure training."

"This accident could have been avoided if NATOPS procedures had been followed."

"The pilot and crew performed in an outstanding manner under emergency conditions."

Comments such as these appear in mishap reports again and again and serve to emphasize the need for an effective pilot training program. This need has long been recognized by senior commanders, and directives require that units establish pilot training programs for new pilots just reporting aboard and for those already qualified.

In the case of new pilots, a minimum number of familiarization flights and the items to be covered on each are often specified. But too often, this is where the guidance ends. Where do we, as training officers or NATOPS officers, go from here in developing a workable squadron program? Here are some thoughts on the subject which may help solve the problem.

Who Should Be An Instructor Pilot?

One of the PPC's primary responsibilities is the training of his crew, and in a manner of speaking, he is an instructor pilot. He must be thoroughly familiar with the instructional techniques involved in the training he performs. It should be noted, however, that qualification of a pilot as PPC does not necessarily qualify him as an IP for FAM flights. Normally, just a few well-qualified pilots are designated as instructors for syllabus familiarization flights. COMPATWINGSPAC requires that these people go through a written IUT (instructor under training) syllabus of at least three flights and that they receive extra training in landing from the right seat. OPNAVINST 3710.7G further requires that instructor pilots be designated in writing. It is recognized that not



everyone is cut out to be an instructor. The question then becomes one of how to decide whom to put through the IUT syllabus. Some of the special attributes of the prospective instructor are:

- A demonstrated ability to fly the aircraft. On occasion, the instructor will be required to demonstrate certain maneuvers. He will be required to recover from some potentially dangerous situations. He must have the ability to anticipate what his student may do wrong. Just as a pilot must keep ahead of the aircraft, the instructor must keep ahead of his student.

- A superior knowledge of systems and procedures. The instructor pilot must have a deeper knowledge of aircraft systems than the average fleet pilot. He must be able to explain clearly the workings of the prop, for example, or be prepared to answer questions which may go beyond the scope of the flight.

- Temperament. The instructor pilot must have the ability to get along with people, to continue to instruct even when the student does not progress as expected. He is not necessarily the "hottest pilot in' the squadron." Teaching an attitude of safety may be just as important as physically controlling the aircraft.



teach, keep up with the syllabus, and keep up with the aircraft and student at the same time.

Continued

• **Professional Attitude.** Without a professional attitude, the first four attributes cannot exist. One has to have a desire to be a professional instructor. It takes extra study, extra time for preparation, and dedication in producing high quality pilots from nuggets. There is a lot of pride and reward in seeing a man you have instructed in FAM stage turn into a respected PPC.

How Should Syllabus Items be Presented?

We have come a long way since the early fifties in standardizing normal and emergency operating procedures. With the exception of training squadrons, however, very little standardization of instructional techniques has come about. Many incidents over the years could have been avoided if standard operating procedures for training evolutions had been available. How to present a syllabus item safely, yet cover the material, is the instructor's biggest problem.

In the Pacific P-3 community, there is the P-3 Flight Instructor's Guide prepared by VP-31. Each item on the pilot training syllabus is discussed — how to simulate the malfunction, what the student should know, and potential hazards. The procedures outlined in the Flight Instructor's Guide have been well-thought-out and thoroughly evaluated by experienced pilots.

Experience has shown that flight instructors, in an attempt to change their everyday routine, often vary from standard procedures. This opens the door for a mishap. The procedure contrived in flight is not as well researched as the "tried and true" procedure in the manual. The pitfalls of a given maneuver may not be considered before an error is made. A recent WEEKLY SUMMARY article discussing an incident in which the instructor pilot allowed the aircraft to leave the runway during a simulated two-engine landing summarized this thought by stating: "This incident is an excellent example of what can happen when prescribed flight training procedures are not followed to the letter." Remember, the standard procedure may seem old hat to the instructor, but it's still new to the student. Stick with it.

What Should Be Included in the Syllabus?

Items to be covered on training flights which lead to pilot designations are provided by directives from higher authority, but many of the items leave the instructor pilot with a great deal of latitude concerning the depth to which he should go into a system, how far he should carry a simulated emergency, or what he should expect from a student pilot. No one can provide hard and fast rules because of the wide variance in situations which are encountered. Nevertheless, syllabus guidelines can be laid out to cover most situations. Some of the factors influencing this are:

• How much experience does the student pilot have? This can vary from a third tour, P-3 qualified pilot, to a nugget fresh out of flight training and the RAG.

• How current is the student? Even a pilot previously qualified in model will have forgotten a great deal while serving a tour aboard USS BOAT or at some puzzle palace. It may take several flights to regain the "feel of the aircraft."

• How well is the individual student pilot progressing? This is probably the most difficult item to assess. A review of previous training records will give some indication of where he stands, but further evaluation through question and answer periods during briefing or additional maneuvers in flight may be necessary.

• How long has it been since his latest syllabus flight? Extended periods of time between training flights cause the student pilot to "get rusty" and to forget procedures not recently reviewed. It may take some time for the student to get warmed up before the current syllabus items can be presented.

• How much time is available on this flight? Time available on any given flight will limit the depth to which systems' discussions can go. Any further discussion will cut into the time available for other items. Inflight instruction should be limited as much as possible to those items which involve actual control of the aircraft. For pilots already qualified, less guidance is required. A requirement exists for each pilot to maintain his proficiency in landings and emergency procedures, but then, which procedures should be practiced in the aircraft, and which can be done in the OFT? Here are some additional questions which can be asked:

(a) Is this maneuver really necessary?

(b) What are the chances of this malfunction actually happening in flight?

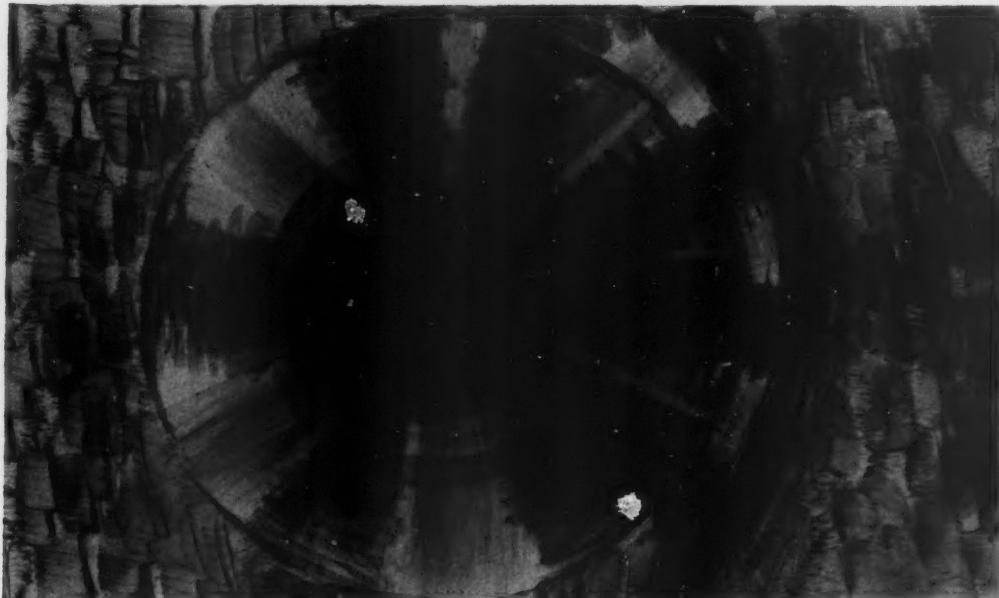
(c) What dangers are involved in this simulation and how far can it be allowed to go?

(d) What is the experience level and proficiency of the instructor pilot (a factor in "c")?

Most inflight emergencies can be handled easily and safely in the P-3. Some maneuvers, however, because of a low probability of actual occurrence or because of a real hazard involved in their simulation, should not be practiced, or, at most, should be practiced only under very carefully controlled conditions. Examples of this are boost out landings, windmill starts, and high altitude approaches. A very interesting article "P-3 Pilot Training," written by Lockheed's Jay Beasley, discusses this in the August 1968 APPROACH.

Increased attention to your pilot training program will pay off with increased safety in operations. Give it some thought. ▶

It happened outside CONUS, but it could have happened anywhere. It happened to an SH-3D, but it could have happened to any helo.



23

CONTROL KICKS

THE AIRCRAFT had been airborne for approximately 45 minutes after hot refueling from USS Birdfarm. Upon transition to a manual hover, the master caution light and panel blinked once. The momentary flicker was too short for either pilot to identify which light had illuminated.

Shortly thereafter, the helicopter shuddered from mild yaw kicks and torque fluctuations. The HAC broke hover, asked the copilot for full power, and started a return to base.

Enroute to the carrier, yaw kicks became more pronounced, and torque varied plus and minus 20 percent. The pilots notified the tower of their difficulties and elected not to attempt a carrier landing. Instead, they executed a run-on landing in a field about a mile from the ship at the pier.

After landing, the HAC secured both engines and applied the rotor brake. At no time were unusual yaw deflections noted on the A-mode indicator. The maintenance sleuths couldn't find any evidence of malfunction or material failure.

Later, when a maintenance check pilot tried to start the engines, he was able to start No. 1 only with great difficulty. The engine attained just 104 percent (ACC DR) with full travel of the speed selector. Flight control checks were normal. No. 2 engine wouldn't advance beyond 35 percent Ng and 350 degrees T₅. Problems.

The helicopter was hoisted aboard, and subsequent attempts to operate the engines were unsuccessful. The engine fuel controls were changed when internal malfunctions induced by water contamination were discovered (20 PPM). The fuel filters were $\frac{1}{2}$ and $\frac{3}{4}$ full of water. Fuel samples prior to hot refueling checked normal. *Subsequent investigation disclosed a closed water drain valve in the ship's JP-5 plumbing – due to personnel error.*

The pilots' CO commended the crew for their high degree of coordination and good judgment in handling the emergency. The squadron also is proposing a NATOPS change to describe the symptoms of fuel contamination which is not indicated by fuel bypass lights but by torque splits and violent yaw kicks as the engines switch the load.

Anymouse



24

IFR Emergency

THE COPILOT had passed 500 hours in the CH-46 and was confident he knew his bird and could handle any emergency that might arise. While flying one day, he had a very funny feeling. He couldn't define the feeling — maybe

it was more of a premonition. Anyway, he was acting as copilot for a HAC from the Group who was getting his CRT time.

The flight was almost over. Everything had been going fine, and each pilot felt like a fat cat. Then complete and utter surprise, they went instant IFR. The water, a deluge, on the windshield was so deep the wiper blades couldn't handle it. The HAC's eyes went to the gages while his copilot half eyeballed the gages and half looked out the window for a ground reference.

Then it happened — dual engine compressor stall. As everyone knows, there's only one way to remedy a compressor stall and that is to shut down the engine and

The purpose of Anymouse (anonymous) Reports is to help prevent or overcome dangerous situations. They are submitted by Naval and Marine Corps aviation personnel who have had hazardous or unsafe aviation experiences. These reports need not be signed. Self-mailing forms for writing Anymouse Reports are available in readyrooms and line shacks. All reports are considered for appropriate action.

**REPORT AN INCIDENT
PREVENT AN ACCIDENT**

attempt a relight. They shut down, cranked the APP, and got a relight on both engines. At that time, they became VFR again. Whew.

A close call? Perhaps. But they definitely learned one thing — *always maintain some forward speed when in the wash rack*. When they stopped in the middle, the full barrier filters became water soaked enough to cause air starvation and compressor stall.

Not-so-confident mouse

The Last Fuel Stop

ONE afternoon a couple of months ago while in the No. 3 spot in the fuel pits, I saw a helicopter ahead of us with its hydraulic cooler doors open. I told my crew chief who passed the word to the other aircraft. The pilot secured his No. 1 engine, directed the doors be secured, then started No. 1 while still refueling.

My suggestion would have been to taxi out of the pits, pull out of the way of traffic, then secure No. 1 and close the doors. The aircraft was a transient, and the engine he fired up faced the refueling hose.

Alertmouse

Your suggestion makes sense. This scene is a bad one, and the pilot qualifies for one Falcon as well as a Delta Sierra.

Whoa!

NAVY 12345 taxied onto the runway at NAS Seacoast. The pilot was cleared for takeoff and commenced a normal run. In the vicinity of 120 knots, near rotation speed, he was instructed to abort. No explanation was given, nor was there time for any. The pilot aborted in accordance with NATOPS and dropped the hook, taking the long-field gear at approximately 70 knots. With a



fully loaded, double-bubble TA-4 and approximately 4500 feet remaining, it would have been difficult at best to stop had the hook skipped the arresting gear. The runway terminates at the edge of the water.

The pilot was later contacted by the concerned tower controller who took full responsibility and

admitted error on his part. Investigation revealed the controller cleared 12345 for takeoff prior to receiving authority from departure control. Informed of his error while the aircraft was rolling, his immediate reaction was to correct it by means of an emergency abort. The pilot complied because "he had no other choice."

Checklists Anyone?

I RECENTLY witnessed an odd occurrence (to me, as a *Stoof* pilot) on our flight line. Two pilots manned their single-seat jets on a bright, sunny day. All seemed normal as the first aircraft started up and taxied out. The second plane was having his problems. On start, fuel began pouring from his aircraft. Fuel dump switch on?

The crash crew quickly responded and began to wash down the area with light water. I assumed the pilot would shut down his aircraft to prevent a possible fire. Not so! After much arm-waving by the pilot, the crash truck pulled away from the aircraft. The pilot then, much to my amazement, taxied out and sped across the flight line to assume the lead as he and his playmate prepared to leap off into the blue.

Later, when relating this incident to another single-seat jet type, he remarked, "We don't use checklists."

Is that so? Well, I do, and it seemed to me that the aviator in this incident should have. Even in my limited flying career (500 hours), I have seen the value of using written checklists. I realize no one is looking over the single-seater's shoulder, but aren't we all supposed to be professionals?

Checklistmouse

There's ample evidence that you can't get by very long without checklists. I recommend their use to ALL naval aviators, regardless of type aircraft involved. Not only is this the professional way to aviate, but the safest.

Only quick reaction and strict adherence to NATOPS prevented consequences far more serious than ruffled feelings on the part of the code PAX. Chances are that a repeat occurrence would result in a different reporting format.

ASOMOUSE

Once the controller realized his error in clearing the aircraft to roll, he was faced with the need to make a quick decision - whether to let the aircraft continue or call for an abort. In view of the obvious hazards of an emergency abort, there is little doubt that the best decision would have been to allow the aircraft to continue his takeoff, while at the same time notifying departure control. Departure control could then have exercised emergency control.



Creature Comfort and Convenience



ONE COLD winter morning last year during a carrier's deployment, a man overboard drill was sounded. In 3 minutes, the SAR helo was ready to go. Seconds later, the helo crashed on deck.

At the time of the accident, by squadron policy, alert pilots and copilots were not required to wear CWU-33/P antiexposure suits (ventilated wet suits) during their watches. During normal operation, all crews were using the suits. The idea was that emergency drills and emergencies could be answered more rapidly without taking the time to don the antiexposure suits.

When the SAR helo was manned, both helo crewmen were wearing wet suits. The pilot and copilot were wearing summer flight suits over thermal underwear.

"The accident, fortunately, was not — but could have been — a tragic one," says the investigating flight surgeon. "The detachment's accepted practice of sacrificing the donning of the antiexposure suits to respond more rapidly to an emergency is, in theory, admirable. In this case, however, it could well have resulted in the needless loss of two naval aviators if the helicopter had fallen overboard."

"Carrier operations during this deployment had been conducted in waters as cold as 45°F with air temperatures in the 35-40°F range. Survival under such conditions would be jeopardized after approximately 35 minutes in the water without antiexposure suits."

"Compounding the problem is the fact that the aircraft involved in this accident was the primary search and rescue helicopter. If it had crashed into the water, at least 20 minutes would have been required to prepare and man another helo to search for any survivors."

After the accident, the helo det took a new look at the problem. All alert crewmembers now stand watches in antiexposure suits day or night.

"Although it is recognized that this is somewhat uncomfortable for the men," the flight surgeon reports, "it is felt that the advantages of being well-protected over cold waters far outweigh the disadvantages of discomfort."

Many times, decisions about not wearing personal flight equipment are made in the name of "expediting the mission." A hard look at what can happen (as in this incident) shows the fallacy in this type of thinking.

And, let's face it, creature comfort and convenience are sometimes factors. Making people wear their flight gear is not very popular. But creature comfort, convenience, and popularity won't mean a thing when your survival is on the line. ▶

notes from your flight surgeon

Slip-Up

WEARING a flight deck life preserver with spent CO₂ cylinders is a dangerously poor practice.

During the final phase of a CVA's ORI, a plane captain in one of the embarked squadrons was trying to leave the flight deck because of an approaching aircraft. To stay as far from the landing area as possible, he walked along the starboard deck edge toward a ladder to the catwalk.

The wing tank of an A-4 blocked his path, so he tried to climb up on the tank and go over it. He slipped and fell 8 feet onto the catwalk guardrail, then over the side into the water — a total distance of about 60 feet.

A shipmate saw him fall and notified a supervisor wearing a radio transmitter. He, in turn, notified the air officer who sounded "Man Overboard" over the SMC. Men on the bridge immediately threw three distress markers into the water to mark the datum.

Luckily for the man in the water, the airborne planeguard helo crew had also seen his fall and proceeded immediately to his position. He was speedily rescued and returned to the ship.

The rescued man was wearing the required flight deck uniform except that his flotation vest contained two spent CO₂ cartridges and had no survival light.

He did not use the oral inflation tube because he saw the helo approaching and was confident that he would be promptly rescued.

Investigators reported that the flight deck was slippery in the area of the fall because of high humidity

combined with fuel and fluid residues. The aircraft surface was also moist and slippery.

Fatigue was considered a primary factor, as the plane captain had only 3 hours of sleep the previous night. The three preceding days, he had been required to be at his aircraft some 18 hours a day for the ORI.

"This incident ended without injury," the ship's report states, "but the lessons learned will be widely publicized. We will continue



A metal match for starting fires is part of the SRU-31/P 24-hour survival kit. Here a "survivor" strikes the match against his survival mirror to produce a spark. This ignites the powder he has scraped from the metal match, the feather stick, and the natural tinder provided in the kit.

Beats rubbing two sticks together!

to give emphasis to all hands regarding wearing a fully equipped flight deck uniform and will conduct a formal inspection prior to conducting future flight operations."

The flight deck is a dangerous place. Reduce the odds by using sensible safety precautions and properly serviced safety equipment.

Oxygen Mask

THE RIO ejected with his mask unfastened. He lost his helmet and sustained injuries about the head and neck.

The helmet is very necessary, and if it is to be retained, the mask must be worn... The A-13A with hard hose is a miserable piece of equipment, however, and the consumer will not use it.

Investigating flight surgeon

APPROACH comment: We agree that the oxygen mask needs improvement. The Sierra 756 with yoke swivel was an attempt to improve the mobility of the A-13 mask, but it fell short of the goal. NAVAIR is now looking at a soft hose, single inhalation/exhalation valve mask which is not only lighter but smaller. This should be a significant improvement. Further, flying with the mask unfastened is a NATOPS violation.

Wisely

THE SURVIVOR'S rescue was facilitated by the use of the PRC-90 and his pistol flare. He wisely used his pistol by firing only when he felt that someone was probably looking in his direction.

Investigating flight surgeon

FALCON 117 (or you fill in the blanks)

By CDR M. D. Reynolds
COMATKCARAIRWING THREE

STORIES I've heard but wished I hadn't (although I'm sure I'll hear them again):

No. 1: "You won't believe the maneuver we (F-4) got into last week. Hassling the A-4, one on one, we departed the aircraft, and it looked like an inverted spin at first. We discussed it and before the proper inverted antispin procedures could be initiated, the aircraft flopped right side up and looked like an upright spin. We discussed it, and the pilot put in antispin controls. This didn't help so he just turned loose and it stopped rotating going straight down. We started at 34 thou, out by 11. I couldn't figure it out . . . Hey, Bob, two more drafts."

No. 2: For cripes sake, Chief, this bird is spraying bombs at 12 o'clock, all over. My pipper was right on and I was hitting way long. I don't think it was my sight because the guns were super. The sight checked out so I suspect hung release."

(The scourge of the squadron, an ex-RAG instructor, joins in with his typical RAG Instructor questions.)

"What were your dive angles?"

"53, 51, 55, 50, 56, I dunno."

"What was your airspeed?"

"Couldn't get it slow. Can't figure it out. Hey, I gotta call my wife."

"What was your release altitude?"

"Right on."

"Where was your initial pipper placement?"

"Down at six mostly . . . Hey, I gotta go."

After hearing these and many similar stories for years, you stop wondering why the CO is suffering from a mild case of schizophrenia, an acute case of aeroneurosis, has a slight tendency to overimbibe on the berry juice, and sits around as if waiting for the other shoe to hit the floor.



When you stop and wonder how so many relatively intelligent people could be so ignorant about such a precise and demanding profession, the result is bewilderment. Each year, we spend more and more for better and better, but . . .

Both of the above stories indicate a partial understanding of aeronautics and a complete lack of knowledge about professional airmanship. In too many accidents, incompetence, ignorance, or incorrect techniques play major roles.

The old adage of "Buy'em books, send'em to school, what'll they do, eat the covers" holds most true. The cost of NATOPS, NAMO, WST, RAG, flight checks, safety standdowns, etc., etc., Navywide, is absolutely staggering; but we still have trouble conveying the professional aviator picture to some aviators.

COMNAVAIRLANT safety stated that we haven't had an original accident in years; we just keep repeating our former mistakes. If we could generate as much enthusiasm for NATOPS and TAC Manuals as the publishers do for *Penthouse* or *Playboy* magazine, then we'd be in business.

Some likely areas to generate enthusiasm would be:

- To rearrange incentive and motivation in the mind of the IIA (ill informed aviator). The IIA thinks that if he performs with a modicum of aeronautical knowledge, has friends in high places (BUPERS), and stays lucky, he will remain in the cockpit and be promoted. That is his incentive. *What he should think is that if he doesn't*



perform better by knowing his aircraft completely and being professional in all aspects of aviation, he will be fired. That should be his motivation.

- Perhaps the safety officer should comment to the IIA what a beautiful widow or girl friend he's going to leave.

- Perhaps the CO should indirectly convey to the IIA the suffering of a breaved parent or loved one.

The possibilities are endless.

Reflect on this point. If all the ejection seats were disconnected, think about the booming (no pun intended) business the NATOPS officer, NAMO, and the WST would suddenly acquire. If we knew that we *had to land it*, that our complete survival was in the hands of good maintenance men, good preflight, and thorough knowledge, possibly our attention to detail would take on a new perspective.

Brings to mind LT (*you fill in*). He was so hot, he wore asbestos underwear. He was the scourge of the airways. He was the idol of the Nuggets. His appearance and mannerisms were theatrical. Big p--- cutter crushed on the back of his head, flight suit unzipped to mid-belly button, putrescible-looking cigar clamped firmly between his ivory-white teeth, mounted beneath his smartly trimmed moustache, expounding the virtues of his precise abilities and numerous victories in a 50 decibel whisper.

LT (*you fill in*)'s first downfall was when the dastardly ops officer put up an "attack totem pole" for all the aviators so that at a glance you could see how everyone in the squadron ranked in each event. Lo and behold, LT (*you fill in*) was in the lower third in almost everything. This lowered his sea stories by a few decibels, but not for long. The tragedy ended aboard ship, after a 500 knot-low-altitude break, wrapped up pattern, high fast start into a ramp strike. Alpha damage, Alpha injury. The skipper had several indications of this impending disaster, but hesitated on drastic action. The rationale was tempo of operations, shortage of second tour aviators, and short turnarounds.

Occasionally, when assessing the credentials of a pilot, we confuse professionalism, safety, and survivability. It is not enough that he gets airborne, flies for so long, lands and returns to the line, thus completing the flight evolution safely because the aircraft performed as advertised. A professional pilot is one that has a thorough knowledge of his machine and its capabilities, handles it well throughout the performance envelope and completes assigned missions in the most professional manner while remaining cognizant of absolute safety parameters.

To be a professional aviator you must do more than look it and talk it. You must know it. To know it, you must read, study, analyze, talk, practice, and when you think you are ready — review. The most worthwhile time an experienced and professional aviator can spend is in a well-modulated sea story (air story) session with the other pilots. We all learn from each other although the rate of transfer is not the same. The nugget or inexperienced aviator needs to be told and retold. He doesn't have the experience and background to draw on. We all must get smarter faster to survive, or we will go the way of the dinosaur.





Letters

Make every day count, but don't count every day.

Ace L.

Name of the Game

NAS Pensacola — Survival is the name of the game. Without a firm elementary foundation of knowhow, the ability to survive becomes chance. Only by training can this ability be acquired.

I thought your readers would be interested in the comments made by a former student, now a flight surgeon, to one of his survival instructors — LT Donald F. Lynch, MC, USNR — to Survival Instructor Jack Martin.

In his letter to Mr. Martin, LT Lynch recalls a brief conversation they had early in training. As LT Lynch entered the flight surgeon training program with qualifications of a water safety-instructor, he anticipated little trouble swimming. Upon failing the breaststroke standards, however, LT Lynch was required to attend the full swimming course. With continued practice under the program, he soon found improvement in all aspects of his swimming technique.

Soon after reporting to his first command, LT Lynch encountered a situation which most assuredly taxed his abilities. On a MedEvac, the aircraft crashed into the sea. There were two fatalities, and LT Lynch sustained a fractured collarbone and numerous cuts on his face.

LT Lynch relates, "The moments to follow could only have been likened to the School's Dilbert Dunker... plus!"

APPROACH welcomes letters from its readers. All letters should be signed though names will be withheld on request.

Address: APPROACH Editor, Naval Safety Center, NAS Norfolk, Va. 23511. Views expressed are those of the writers and do not imply endorsement by the Naval Safety Center.

The cabin filled with water, and he was forced to swim to the bulkhead, down about 7 feet, through a hole in the fuselage, then to the surface. The survivors had to tread water for several minutes while awaiting the arrival of rescue boats.

Looking back, LT Lynch gives the following analysis:

"In reviewing the events of the crash with the other three officers, we all agreed that our Dilbert Dunker and water survival training at Pensacola played a significant role in our survival. Furthermore, discussions with the three aircrewmen and my corpsman revealed that they felt their annual maintenance swim and water survival training helped significantly with their egress and rescue. The upshot of all this is that all the time spent in the tank at Pensacola paid off. And you may pass this on to whomever may be complaining about the course presently. Every aviator has a responsibility to himself and his crew to become the best swimmer possible."

LT Lynch's story is indicative of the value of the rigid training received by students in survival courses. His training gave him the ability to survive in a crisis.

ENS C. C. Livengood
PAO, NAS Pensacola

Jammed Elevator: T-34

NAS Gitmo — As I recall, the T-34 has a conventional elevator trim. This means that with a jammed elevator, the reaction of nose pitch due to trim inputs will be just the opposite of that observed in the aircraft without a jammed elevator. (This is because the trim tab becomes the acting elevator.)

Therefore, with a jammed elevator, to increase nose pitch, it would be necessary to roll in nosedown trim.

Consequently, to decrease nose pitch, nosedown trim would be required. This is contrary to normal response. I would think that, unless the pilot was aware of this, the wrong trim input would be followed by another wrong input of greater magnitude.

I'd like to know if the T-34 pilot in the July '73 issue of APPROACH (Air Breaks) was aware of this (or maybe I got it all backwards).

LTJG Wavell
VC-10

• He was aware. The day it happened, the pilot had trimmed the T-34 to fly straight and level, hands off. He says that if he had not been able to free the controls, he was going to add power to make a flat approach and drop 'er in when over the runway. In your diagnosis of "trim tab attitude" with a frozen elevator, you're correct.

Tell It Like It Is

MCAS Quantico — On a recent proficiency hop, I saw a notice written on the instrument panel of a trusty old T-28. It brought back many memories of tours in the Training Command before the days of LMDs (large mahogany desks). Others might enjoy it, too.

FOR SALE:

One used T-28, complete with one screaming damyankee instructor and one homesick Mississippi stud.

MAJ N. E. Burke

Sanyo Flashlight

NAS Alameda — In the October 1972 APPROACH, there was a letter concerning the use of the Sanyo rechargeable flashlight as a safety backup lighting aid. The letter, written by R. O.

Farris of VA-66, requested info on where these flashlights might be obtained through a CONUS source. Although this question is now almost a year old, I thought it might still be unanswered.

I have discovered that this exact model flashlight is made by several companies...The ones I purchased came equipped with a detachable red plastic lens which has proven particularly useful.

I have made extensive use of these flashlights in the cockpit and concur with those who believe that this is "an invaluable piece of flight gear" for use during night operations. If it is still not available through the supply system, I believe steps should be taken to make it available.

LT K. M. Murphy
VAQ-208

- Although editorial policy prohibits "advertising," the handout sheet with excerpts from all APPROACH reader letters giving sources of purchase is still available from the editor. The Sanyo type light is not in the Navy supply system.



TIGHT HARNESS. Even though it may be uncomfortable, especially for Wave "pack-seat" jet flyers, the harness has to be pulled tightly. This means stooping over for a good fit.

Wave Officer in picture is ENS JoAnne Burklund of VT-25.

ALL PILOTS READ

FLIP Changes

THE DEFENSE Mapping Agency, St. Louis, Missouri, has notified the Naval Safety Center of the following changes to FLIP documents:

• *Flight Planning.* The information in *Flight Planning* is being reviewed for currency. That data which is no longer relevant to military operations will be discontinued. However, to preclude an arbitrary deletion of information, a light gray screen will be overprinted on the data selected for deletion in the last issue in which it will be published. If this screened information is essential to your mission, notify the appropriate Defense Mapping Agency office listed under **CORRECTIONS** on the inside front cover of *FLIP Planning*, Section II.

...Most Rewarding Billet

NAS Pensacola — In response to CDR Fremd's article "My First Flight Instructor" in the July 1973 APPROACH, let me say I find my position as a flight instructor most demanding and, at times, most frustrating; yet, in the long run, it is the most rewarding billet I've held so far.

1/LT J. E. Caruso, USMC
Instructor, VT-6

Preparing for Standdowns

NAS North Island, CA — Safety standdowns are probably the best things to happen to naval aviation since the ejection seat, however...it seems all too often, these important events are scheduled on emotion rather than thorough logical planning. They are more often than not "sprung" upon the unsuspecting with detailed instructions for thorough briefings in specific areas, stressing professionalism, but in such a

time frame as to allow only 2 or 3 days (or less) max to prepare.

All right! All right! I'll grant you that certain areas should have standing lectures and lecturers at all times so that they could be covered at a moment's notice. But what about the trap of the canned lecture that becomes boringly repetitious because of the human trait of putting off things until the last moment? This leads to the reuse of material since the lecturer fails to prepare himself until notice comes out to have the standdown. Now we're right back where we started from.

And what about the problem of meeting the special requirements tasked by each standdown message? All of this, not to mention the scheduling difficulties in obtaining space to present the lectures. I know of only a few squadrons who have enough space for such evolutions without borrowing an auditorium.

How about a few hints to type commanders (and others) who schedule safety standdowns as to how to most efficiently use such events and advise to the effect that at least 7 working days' notice will allow better preparation on the part of participating units. This time will permit each command to prepare lectures germane to specific evolutions in which they are involved (FCLP, carquals, bombing, post-deployment standdown, back-in-the-saddle). All of these, in addition to standard required evolutions such as NATOPS, course rules, etc.

My main point is to prevent the tremendous value of the safety standdown from being lost and to encourage maximum participation and *interest*. These can only be obtained through planning and preparation.

LCDR W. T. T. Hood, Jr.
VAW-113

• Agreed. Standdowns should be scheduled to permit sufficient time for preparation, including research and scheduling of lectures. Incidentally, a review of past issues of APPROACH would be beneficial in preparing lectures. At one time or another, APPROACH has dealt with every important area pertaining to naval aviation safety.

Relative to the impromptu standdowns — sometimes there's just no other way. When two or more similar, pilot-caused accidents occur within hours of each other — an immediate "time out and take stock" may be needed just to shake a few pilots out of their complacency rut.

RADM W. S. Nelson
 Commander, Naval Safety Center
 Publisher

Our product is safety, our process is education and our profit is measured in the preservation of lives and equipment and increased mission readiness.

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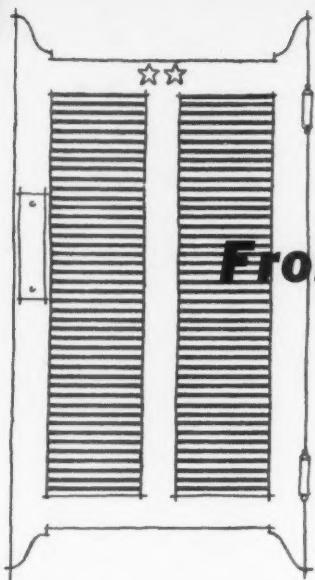
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This month's cover by Blake Rader shows a section of HT-8's Bell TH-57s. NFFS photo on pg 27 by LCDR W. S. Barry, MC, USNR.





From My Point of View

Command Decision

THE TWO Bravo Zulus on pages 8 and 9 of this issue are fine examples of cool-headed professionalism and courage in the cockpit. What is more, they vividly illustrate the daily, almost hourly, demand in naval aviation for immediate, accurate risk assessment and command decision. Anyone familiar with CV operations reading the account of the emergency recovery aboard CONNIE will hear in his subconscious the rapid exchange of hard questions and concise answers going on backstage between Air Boss and Squadron Observer; between Flight Deck Control and Tower; between Pri-Fly, LSO, and Bridge; and quite conceivably between the Bridge and Flag Plot – a rapid exchange between real professionals, culminating in a command decision vitally affecting the survival of the *Phantom* and its aircrew as well as the safety of the ship.

The foregoing calls to mind a conversation in this

office a little over a year ago with an old friend, a retired HATWing B/N, presently employed in private industry. It was not a happy occasion, for strong in both our minds was the tragic memory of the previous day's memorial service for his son, a talented, dedicated naval aviator, killed in an operational accident.

We got to discussing command decisions of the kind described above and how commonplace they are in naval aviation, particularly in the shipboard environment. Together we agreed that the decision-makers have maintained an amazingly high batting average through years of experience in a mighty tough league.

It requires neither vivid imagination nor a re-study of naval history to appreciate the utility of such experience projected into higher level operational decisions, whereupon hang the successes or failures of Task Forces and Fleets – and ultimately victory or defeat in war at sea!

Of course, Naval Aviation doesn't have a monopoly. Submarine operations, amphibious landings, and other types of naval operations levy similar demands, albeit less frequently, for decision-making in fast-moving situations with catastrophic potential.

But a pair of gold wings sure beats an advanced degree in Quantitative Analysis when the chips are down and you can't wait for a Study Group.


W. S. NELSON

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